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|------------------------------------|-------------|----------------------|---------------------|------------------|
| APPLICATION NO.                    | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
| 10/520,960                         | 02/03/2006  | Christian Koeniger   | 101.0005US/PCT      | 4786             |
| 35204                              | 7590        | 04/21/2009           |                     |                  |
| SCHLUMBERGER RESERVOIR COMPLETIONS |             |                      | EXAMINER            |                  |
| 14910 AIRLINE ROAD                 |             |                      | JAGAN, MIRELLYS     |                  |
| ROSHARON, TX 77583                 |             |                      | ART UNIT            | PAPER NUMBER     |
|                                    |             |                      | 2855                |                  |
| NOTIFICATION DATE                  |             | DELIVERY MODE        |                     |                  |
| 04/21/2009                         |             | ELECTRONIC           |                     |                  |

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

VSOLIS2@SLB.COM  
ABrown15@rosharon.oilfield.slb.com  
jalverson@slb.com

|                              |                                      |  |
|------------------------------|--------------------------------------|--|
| <b>Office Action Summary</b> | <b>Application No.</b><br>10/520,960 | <b>Applicant(s)</b><br>KOENIGER ET AL. |
|                              | <b>Examiner</b><br>MIRELLYS JAGAN    | <b>Art Unit</b><br>2855                |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
  - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
  - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED. (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 09 January 2009.
- 2a) This action is FINAL.      2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-5,8-10,17-21,28,30,31,36 and 56-59 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1-5,8-10,17,28,30,31,36 and 56-59 is/are rejected.
- 7) Claim(s) 18-21 is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsman's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO/SB/08)  
 Paper No(s)/Mail Date \_\_\_\_\_
- 4) Interview Summary (PTO-413)  
 Paper No(s)/Mail Date \_\_\_\_\_
- 5) Notice of Informal Patent Application
- 6) Other: \_\_\_\_\_

**DETAILED ACTION**

***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

3. Claims 1-5, 8-10, 17, 28, 30, 31, 36, and 56-59 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent Application Publication 2002/0189806 to Davidson in view of U.S. Patent 6,640,900 to Smith.

Referring to claims 1-5, 8-10, 17, 56, and 57, Davidson discloses a system for measuring a parameter in a subsea well, comprising:

a riser extending from a platform (20) adjacent to the ocean surface towards the ocean bottom (paragraph 4); and

a landing string (22) extending within the riser from the platform towards the ocean bottom;

wherein the landing string extends at least partially within a pressure control equipment at the ocean bottom; a control umbilical is deployed as part of the landing string; the landing string is landed on a landing shoulder located on a pressure control equipment; the landing string extends in an interval within the riser from the platform toward the ocean bottom; the landing string is in communication with a well formation; and temperature sensors are used for measuring temperature in the well (paragraphs 29, 34, 36-40, 59, 63).

Davidson does not disclose a line extending along at least part of a length of the landing string and including a distributed sensor system for sensing the temperature at various points along the length of the landing string; the line extending at least partially within the pressure control equipment; the line comprising a fiber optic line; the distributed sensor system comprising a plurality of sensors distributed along the length of the line; the line being mechanically attached to the landing string; a conduit located proximate the landing string and the fiber optic line located within the conduit; and the conduit being within the control umbilical.

Referring to claims 28, 30, 31, 36, 58, and 59, Davidson discloses a method for measuring a parameter in a subsea well, comprising

deploying a landing string within a riser, the landing string and riser extending from a platform on an ocean surface towards an ocean bottom;

wherein the deploying the landing string step comprises landing out the landing string at a landing shoulder located on a pressure control equipment; and the landing string is in communication with a well formation.

Davidson does not disclose deploying a line along at least part of a length of the landing string, the line including a distributed sensor system for sensing the parameter at various points along the length of the landing string; measuring the parameter at the various measurement points along the length of the landing string; the measuring step comprises measuring temperature at the various measurement points along the length of the landing string; the line comprises a fiber optic line and the measuring step comprises transmitting light through the fiber optic line and analyzing the returned back-scattered light to provide a complete temperature profile along the length of the fiber line; the deploying the line step comprises extending the line below the landing shoulder; and the act of deploying the line along at least part of a length of the landing string comprises deploying the line along an interval of the landing string extending above the ocean bottom such that the distributed sensor system is adapted to sense the parameter at various points above the ocean bottom.

Smith discloses a system for measuring a parameter in a sub-sea well, comprising a string (8) extending towards the sea bottom (5); a line (11) extending along at least part of a length of the string (8) and including a distributed sensor system (D) for sensing the parameter at various points along the length of the string; and a conduit (11) located proximate the string (8). The string (8) extends at least partially within a pressure control equipment at the sea bottom, and the line (11) extends at least partially within the pressure control equipment; the line (11) comprises

a fiber optic line (D). The parameter measured is temperature; and the distributed sensor system comprises a plurality of sensors distributed along the length of the line. The measuring step comprises transmitting light through the fiber optic line and analyzing the returned back-scattered light to provide a complete temperature profile along the length of the fiber line. The line (11) is mechanically attached to the string (8). The fiber optic line (D) is located within the conduit (11); and the string is landed on a landing shoulder located on a pressure control equipment. The line extends below the landing shoulder. The conduit is a control umbilical deployed as part of the string; and the string is in communication with a well formation (10). The act of deploying the line along at least part of a length of the landing string comprises deploying the line along an interval of the landing string extending above the ocean bottom such that the distributed sensor system is adapted to sense the parameter at various points above the ocean bottom (see figure 3; column 3, lines 1-8 and 34-40; column 4, lines 45-48 and 53-56; column 4, line 67-column 5, line 4; column 5, lines 34-37; column 5, line 55-column 65, line 1; column 6, lines 62-66; column 7, lines 30-36 and 53-59; and column 7, line 65- column 8, line 17).

Referring to claims 1 and 28, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the system and method of Davidson by using an optical sensor system as taught by Smith in order to obtain temperature measurements along the length of the string, which is disclosed as being desirable by Davidson.

***Allowable Subject Matter***

4. Claims 18-21 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
  
5. The examiner's statement of reasons for the indication of allowable subject matter for claims 18-21 is stated in the last Office action, dated 1/28/08.

***Response to Arguments***

6. Applicant's arguments have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to MIRELLYS JAGAN whose telephone number is (571) 272-2247. The examiner can normally be reached on Tuesday-Friday 9:30 AM-8 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lisa Caputo can be reached on 571-272-2388. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2855

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Gail Verbitsky/  
Primary Examiner, Art Unit 2855

MJ  
April 16, 2009